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LETTER TO EDITOR

Public Comments on social media Regarding Self-management of Foreign Body Airway Obstruction; a Letter to Editor

Alexei A. Birkun[1]*

1. Department of General Surgery, Anesthesiology, Resuscitation and Emergency Medicine, Medical Institute, V.I. Vernadsky Crimean Federal University, Simferopol, Russian Federation

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Dear Editor,

Foreign body airway obstruction (FBAO) remains one of the leading causes of accidental death (1, 2). When severe, FBAO constitutes a time-sensitive life-threatening condition, and long-lasting airway obstruction is strongly associated with vegetative state or death (3). Immediate bystander interventions may help to restore the airway before the arrival of professional help. Early application of back blows and abdominal thrusts by incident witnesses have been shown to improve survival and neurological outcome from FBAO (2).

Although FBAO often develops in the presence of other people, unwitnessed airway obstruction constitutes a large portion of emergency cases (2). In the absence of external assistance and the ability to rapidly reach help, when the victim cannot breathe and cough, immediate self-management could be the only way to avoid impending death from asphyxia.

Within two years after H.J. Heimlich first introduced the "abdominal infra-diaphragmatic pressure maneuver", he received over 500 communications from medical professionals and laypeople on the lives saved by its usage, including 15 cases when the maneuver was successfully self-administered by the victim, who was alone (4). The victims applied self-thrust "by pressing their fist into their own abdomen, or pressing the abdomen against a railing, the back of a chair, or the edge of a sink" (4).

Soon after, in 1980, the recommendations on self-administered abdominal thrust for the victim who is alone were included in the US Standards and Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care (5). The recommendations persisted in subsequent guidelines' editions until 2000 (6). Since then, however, the self-help subsection on severe FBAO has disappeared from the international resuscitation guidelines; presumably due to the lack of convincing evidence to support the use of self-administered Heimlich maneuver.

Indeed, besides the aforementioned H.J. Heimlich's report (4), so far, the related published evidence was limited to extremely rare case reports of successful self-management of FBAO (7, 8) and a single experimental study on healthy volunteers suggesting that auto-administered abdominal thrusts could be as effective as first-aider-administered ones (9). Self-management of FBAO remains out of the scope of systematic reviews carried out by the International Liaison Committee on Resuscitation and is not among the knowledge gaps proposed for future research. However, considering the life-saving potential of self-help as the one-and-only solution for unaided victims with FBAO, the topic necessitates further academic attention.

It is recognized that research on FBAO is challenging, where classic controlled studies of treatments are difficult or impossible to conduct and self-reporting of cases by members of the community remains an important source of information. This study sought to retrieve relevant evidence of real-life self-management of severe FBAO from public comments posted on social media.

YouTube (YouTube LLC) video-sharing platform was searched for English-language videos containing instructions on how to self-manage FBAO (search query: choking alone; search location: the UK). All comments on the videos with at least 100,000 views were collected and manually screened to identify pieces reporting users' experiences of applying different maneuvers on themselves in cases of severe FBAO (in particular, when the user reported sudden inability to speak, cough, or breathe, or indicated that self-help was immediately lifesaving).

The search yielded 12 eligible videos, which had a total of 20,350,507 views, 350,033 likes, and 13,885 comments. Comment screening revealed 206 unique pieces reporting the evidence of self-management of severe FBAO with variable levels of detail (Table 1 and Dataset (10)). Ninety comments mentioned the victim's maturity at the time of the event, including 53.3% adults and 46.7% children or teens. Of the comments reporting the witnessed status of the event (n=125), 59.2% denoted the development of FBAO when the

*Corresponding Author: Alexei A. Birkun; Postal Address: Lenin Blvd, 5/7, Simferopol, 295051, Russian Federation. Email: birkunalexei@gmail.com, Tel: +7(3652) 554-911, ORCID: https://orcid.org/0000-0002-2789-9760.

victim was alone, and 40.8% stated the presence of other people. The causative foreign body was most commonly reported as food (94.7% of the 151 comments containing this data). The majority of comments comprised a description of self-helping maneuver action (n=128) that involved throw (18.8%), fall (11.7%), slam (11.7%), thrust (10.2%), jump (7.0%), ram (5.5%), and other related verbs implying the propelling of the victim's body over a sturdy object directly or through the air. Most comments also mentioned the object over which a force was applied (n=158), typically a chair (32.3%) or a counter (19.6%). Application of self-thrusts using the victim's fist positioned on the upper abdomen was relatively uncommon (5.7%). Whereas all comments declared the success of the intervention, 31 commenters (15.0%) stated that more than one attempt was needed to clear the airway. The target body area of impact was specified in 46 comments (abdomen – 67.4%, chest – 28.3%, abdomen and chest – 4.3%), and health consequences were reported in 20 comments (pain – 80.0%, bruise – 25.0%).

Twenty-one commenters (10.2%) stated that the life-saving maneuver was applied following the advice provided in the respective video.

Taken together, these findings indicate that in cases of severe FBAO laypeople apply self-management maneuvers notwithstanding that self-help is omitted from the current resuscitation guidelines. The self-management is attempted by adults and children, when the victims are alone and in the presence of other people. The variability of descriptions in terms of how the self-help was administered suggests that the victims usually act intuitively and impromptu trying to do something as a measure of last resort. Along with that, some victims apply the maneuvers following advice from previously seen popular instructional videos. It is conceivable that in the absence of authoritative recommendations and unified training on self-management of FBAO, laypeople would continue to act ad libitum or adhere to non-evidence-based guidance found online; thereby, posing themselves to the risk of severe complications or death due to inadequate actions.

There is, therefore, a definite need for greater researcher attention to the problem of self-management of FBAO. Further experimental and observational studies are required to collect more evidence and determine optimal principles and methods of self-help. Considering the existing demand for self-management, which could be especially high for people who are prone to FBAO and living alone, restitution of prior recommendations on auto-administered abdominal thrusts (6) apparently constitutes a better-than-nothing solution before the new evidence would become available.

1. Declarations

1.1. Acknowledgments

None.

1.2. Conflict of interest statement

The author declares that he has no conflict of interest.

1.3. Funding

None.

1.4. Data availability statement

The dataset generated and analyzed during the current study is available in the Mendeley Data repository.

1.5. Using artificial intelligence chatbots

The author did not use any artificial intelligence chatbots for preparing this paper.

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Table 1: Characteristics of comments reporting users' experience of self-help in cases of severe foreign body airway obstruction (FBAO) (N=206)

Parameters	n (%)	Parameters	n (%)
Victim's maturity		Action	
Adult	48 (23.3)	Throw	24 (11.7)
Child or teen	42 (20.4)	Fall	15 (7.3)
Not specified	116 (56.3)	Slam	15 (7.3)
Witnessed status		Thrust	13 (6.3)
Alone	74 (35.9)	Jump	9 (4.4)
In presence of other people	47 (22.8)	Ram	7 (3.4)
In presence of a child/children	4 (1.9)	Drop	6 (2.9)
Not specified	81 (39.3)	Hit	4 (1.9)
Foreign body		Run into	4 (1.9)
Food	143 (69.4)	Lean	3 (1.5)
Pill	6 (2.9)	Push	3 (1.5)
Coin	1 (0.5)	Shove	3 (1.5)
Piece of bottle cork	1 (0.5)	Flop	2 (1.0)
Not specified	55 (26.7)	Lunge	2 (1.0)
Object over which a force was applied		Press	2 (1.0)
Chair	51 (24.8)	Whack	2 (1.0)
Counter/table	31 (15.0)	Bang	1 (0.5)
Sink	10 (4.9)	Bounce	1 (0.5)
Arms/fist/hands	9 (4.4)	Crouch	1 (0.5)
Couch armrest/back	9 (4.4)	Fling	1 (0.5)
Ground/floor	8 (3.9)	Flip	1 (0.5)
Railing	6 (2.9)	Hurl	1 (0.5)
Car (doorframe/hood/tailgate/trunk)	5 (2.4)	Jam	1 (0.5)
Fence	3 (1.5)	Leap	1 (0.5)
Fist + counter/table	3 (1.5)	Plank	1 (0.5)
Footboard	2 (1.0)	Punch	1 (0.5)
Low wall	2 (1.0)	Slap	1 (0.5)
Pole/post	2 (1.0)	Slump	1 (0.5)
Stair	2 (1.0)	Smash	1 (0.5)
Steering wheel	2 (1.0)	Splash	1 (0.5)
Balled bath towel	1 (0.5)	Not specified	78 (37.9)
Bathtub	1 (0.5)	**Target anatomic area of impact**	
Bottle of water + wall	1 (0.5)	Abdomen	31 (15.0)
Cabinet	1 (0.5)	Chest	13 (6.3)
Drinking fountain nozzle	1 (0.5)	Abdomen and chest	2 (1.0)
Entrance door	1 (0.5)	Not specified	160 (77.7)
Fallen tree	1 (0.5)	**Health consequences of the self-help**	
Fist + chair	1 (0.5)		
Fist + ground/floor	1 (0.5)	Pain	15 (7.3)
Fist + unspecified sturdy object	1 (0.5)	Bruise	4 (1.9)
Footstool	1 (0.5)	Pain + bruise	1 (0.5)
Trash can	1 (0.5)	Not specified	186 (90.3)
Tree limb	1 (0.5)		
Not specified	48 (23.3)		